

REMARKS

Claim 1 is pending in this application. Claims 2-14 have been added.

The Office Action dated April 5, 2004, has been received and carefully reviewed. In that Office Action, claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Peter-Hoblyn (U.S. 5,968,464) hereinafter referred to as "Peter-Hoblyn". This rejection is respectfully traversed in view of the above amendment and the following remarks.

Claim 1 requires a NOx removal system for boilers comprising ammonia jet nozzles disposed on a gas passage of a boiler and ammonia generating means connected to the jet nozzles and disposed within the flue. Peter-Hoblyn shows a NOx removal system for a diesel engine that includes a chamber 103 disposed in an exhaust pipe having openings 103 for allowing ammonia gas to leave the chamber and enter the exhaust system. As amended, claim 1 requires ammonia jet nozzles disposed on a gas passage of a boiler and ammonia generating means connected to the jet nozzles and disposed within a flue. Peter-Hoblyn discloses a chamber within which a urea solution is vaporized to produce ammonia that is mounted in the exhaust system of a vehicle. Peter-Hoblyn does not show ammonia jet nozzles disposed on a gas passage of a boiler and

ammonia generating means connected to the jet nozzles and disposed within a flue as required by claim 1. Claim 1 is therefore submitted to be allowable over Peter-Hoblyn.

Claims 2-5 depend from claim 1 and are therefore submitted to be allowable for the same reasons as claim 1. In addition, claim 3 requires that the ammonia generating means comprise a screw member disposed in a cylindrical housing. This structure is not shown or suggested by the prior art, and claim 3 is submitted to further distinguish over the prior art for this reason. Claim 4 requires at least one pipe connected between ammonia generating means and ammonia jet nozzles. Such a structure is not shown or suggested by the prior art and therefore claim 4 is submitted to further distinguish over the prior art.

Claim 6 requires a NOx removal system in a boiler comprising a boiler body, an array of heat transfer tubes mounted inside the boiler body, a gas passage in the boiler body outside the array and a flue for carrying exhaust gasses away from the boiler body, at least one ammonia jet nozzle disposed in the gas passage or the flue and a heater for generating ammonia by heating a liquid connected to the at least one ammonia jet nozzle and disposed within the flue. The prior art does not show or suggest a boiler having the claimed structure and an associated NOx removal system as claimed. Claim 6 and its dependent claims 7-9 are therefore submitted to be allowable over the prior art.

Claim 10 requires a method of removing NO_x from exhaust gasses produced by a boiler having a gas passage connected to a flue that comprises the steps of generating ammonia gas from a liquid at a first location, providing a plurality of jet nozzles in the gas passage or the flue at a distance from the first location, and transporting the ammonia gas from the first location to the plurality of jet nozzles through a pipe disposed entirely inside the flue or disposed entirely inside the boiler and the flue. This method is not shown or suggested by the prior art, and claim 10 and its dependent claims 11-13 are submitted to be allowable over the prior art.

Claim 14 requires a NO_x removal system that includes ammonia jet nozzles disposed at a first location in a gas passage of a boiler or at a second location in a flue and a heater for heating urea water to produce ammonia, the heater being located in the flue at a third location spaced from the first and second locations, and a pipe connected between the ammonia jet nozzles and the heater for carrying ammonia gas from the heater to the ammonia jet nozzles. This structure is not shown or suggested by the prior art, and claim 14 and its dependent claim 15 are therefore submitted to be allowable over the prior art.

Each issue raised in the Office Action dated April 5, 2004, has been addressed, and it is believed that claims 1-15 are in condition for allowance. Wherefore reconsideration and allowance of claim 1 and examination and allowance of claims 2-15 is earnestly solicited.


Conclusion


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Scott Wakeman (Reg. No. 37,750) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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